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CALIFORNIA MINERAL FILLERS

The use of finely ground non-metallic minerals and rocks as fillers and the importance of them as components of a large variety of industrial products were discussed in the November issue of MINERAL INFORMATION SERVICE. The following summary of mineral commodities in California suitable for such use suggests the ready availability of many mineral fillers in the necessary amounts.

Asbestos. Asbestos of two main varieties--chrysotile and amphibole -- occurs in many counties in California. It has been produced intermittently in small quantities since 1882, but no consistent production has been maintained. Most asbestos deposits occur in massive serpentine which is widely distributed in the Coast Ranges, Klamath Mountains and foothills of the Sierra Nevada. In 1951 an occurrence of chrysotile asbestos was discovered in the Panamint Mountains, Inyo County, where it is in a contact zone between dolomite and a syenite intrusion.

U.S. Government exploration contracts were cleared and the Philip Carey Manufacturing Company has began to core drill a chrysotile deposit near Washington, Nevada County and clearance for another deposit in southern Trinity County was obtained.

Numerous deposits of the tremolite and actinolite varieties of amphibole asbestos occur in California. These types have harsher, longer, and weaker fibers than those of chrysotile and cannot be spun. They are widely used for filtering acid solutions.

The only production of asbestos in California during 1951 was from the Stock mine in Shasta County, from which Powhatan Mining Company shipped 44 tons of tremolite asbestos. All was shipped east and at least some of it is being used as a filler in plastics. Some of this variety of asbestos is also being used in a new redwood fiberboard. Asbestos is also usable as a filler in paints, in asbestos-cement products, and in floor tile.

Barite. Barite is widespread in California but only two deposits have been recently active, one at Nine-Mile Canyon, Tulare County, and one at Onion Valley near Lake Almanor in Plumas County. Barite is a common gangue mineral in many of the metalliferous veins in the state. It is one of the principal gangue minerals in the recently discovered bastnasite deposits near Mountain Pass in eastern San Bernardino County.

Although most of California's production has been used in oil-well drilling muds, barite has a variety of industrial uses. It is one of the principal constituents of the white pigment lithopone, which is manufactured in California using Nevada barite. California barite is being used as a paint filler and as a filler in rubber articles.

Cement. The continuing shortage of portland cement in California has forced operators to increase production by every possible means short of building new plants. Several firms have made large expenditures in raw-materials exploration programs and in enlargement of quarrying and mining facilities. The most serious shortage is in package cement for the retail trade.

The foremost recent development in the field of portland cement is large scale use of pozzolanic additives. California Portland Cement Company has pioneered in experimentation in use of pozzolanic materials and the U.S. Bureau of Reclamation is the largest consumer.

Portland cement is a common filler, and considerable quantities of it have been used in asphalt surfacings.

Clay. Clay products rank fourth in value of yearly output among the mineral commodities of California. They play a vital part as raw material for manufactured products in almost every industry. Exploration for new deposits has been concentrated in the Ione area of Amador County and along the west side of Santa Ana Mountains in Orange County. Bentonite, discovered four years ago in San Benito County, was mined and shipped to Los Angeles and San Francisco markets during 1951, for uses as oil-well drilling muds.